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NOMINAL AND REAL CONVERGENCE IN THE NEW MEMBER STATES (LONGER-TERM PERSPECTIVES)

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Abstract: *The advancement of nominal and real convergence in the process of EU adaptation is of special importance. The paper studies the main factors of convergence processes in detail. It pays special attention to the analysis of catch-up processes. The paper uses the concepts of the growth theories in order to describe the real convergence processes. Besides the supply side approach (growth accounting, production function), it focuses highly on the demand side and the factors playing an important role in the newest growth theories (trade, macroeconomic policies, institutional system etc.).*

Key words: *nominal convergence, real convergence, catch up process.*

Since their accession, the new Member States have been following transition paths leading to substantial convergence. Yet, the pace of this catch up will dwindle over time and may eventually stop - assuming that there are no changes in the policies. It is possible that the convergence of the new Member States will reach around three-quarters of the per capita GDP level of the EU-15, i.e. after the rapid initial convergence, the EU-10 countries will increasingly constitute a stagnating "convergence club".

The accession to the stability oriented EMU provides remarkable long term advantages for the NMSs. At the same time, important new challenges need to be responded to also in the context of the catch up. The significant capital inflow, challenges related to the fast monetary integration and interest rate convergence (low real interest rates) are considered to be relevant issues even before the euro-adoption. The risks of boom-bust dynamics require stability-oriented economic policies, and flexible products and labour markets. As regards the NMSs, the direct impact of the euro-adoption itself is less significant – especially in countries with fixed exchange rates – as in certain former Cohesion countries which joined the Eurozone. In the catch-up countries, the need for economic policies promoting the equilibrium and facilitating the adjustment (i.e. strong fiscal position, flexible markets) remains dominant.

The fulfilment of the nominal convergence criteria per se is not enough to ensure a robust long term economic performance in the monetary union. Therefore, the promotion of fiscal and structural policies is required also in the course of the euro-adoption (together with the compliance with the rules of the

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Stability and Growth Pact (SGP)). The basic condition for the real economic convergence is considered the approach among the structure of the economies that might be promoted also by transfers of the cohesion policy. Thus, the risk of asymmetric shocks among certain economies might be mitigated, the synchronization of business cycles might be strengthened, and the Eurozone might get closer to the fulfilment of the criteria of the optimum currency area.

1. Real and nominal convergence

1.1. Euro adoption and nominal convergence

The phases of the monetary integration (ERM II, fulfilment of the nominal convergence criteria, euro adoption) are clearly defined. The MSs concerned have to fulfil the *Maastricht criteria* on inflation, interest rate, state debt, budget deficit and exchange rate stability in order to be able to adopt the euro.

The logic of the nominal convergence can be described in the following way. In the Monetary Union, the MSs should have similar inflation rates. Before the euro adoption, the Eurozone Candidates have to prove that their *inflation rate* will not differ significantly from the inflation of the other Eurozone countries. The long-term interest rate criterion measures the sustainability of the low inflation rate. The double criteria on the *stability of government finances* are aimed at avoiding free rider and spill-over effects. By fulfilling these criteria, the country concerned does not have to raise taxes, as this can be distorting and might hinder the growth. The exchange rate stability criterion serves as an overall test: it proves that the country concerned functions in a balanced way also by having exchange rate stability. This is only possible when a country has a stability-oriented budget and financial policy. The nominal convergence criteria serve not only as a test; they also represent the acceptance of the principles of the *stability-oriented economic policy*.

At the same time, the timing of the sustainable convergence depends mainly on the MSs.

The real convergence is not included in the criteria of the euro adoption. But the system itself implies that the sustainable nominal and real convergence has to coexist.

1.2. Real and nominal convergence in the new Member States

The per capita GDP of the new Member States (NMSs) that joined the EU in 2004 and 2007 is much lower than the level of the EU-15. The degree of difference between the new Member States is relevant: it was 33% in Bulgaria and 79% in Slovenia (the others in-between) in 2006. The per capita GDP of the new Member States is even lower than that of those EU Member States which joined the EU earlier (Ireland, Spain, Greece, Portugal); the growth of the per capita GDP of the new Member States, however, proved to be faster until 2008 (Figure 1).

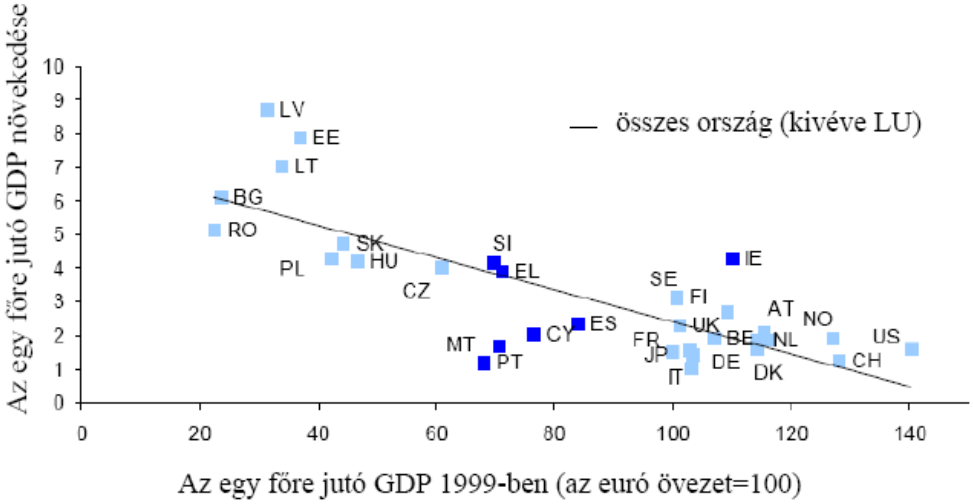

Fig. 1. *Convergence trend (1999-2008)*
Source: European Commission

Relatively fast the new Member States reached the level that was reached by the "old" catch-up Member States at the similar time following previous EU-accession. Having the same pace of growth it takes more than a decade to reach 70% of the GDP of the EU-15. (Sampo (2007)).

The major factor explaining the development disparity is the *productivity differences*. The lower level of the hourly labour productivity in certain new Member States (Baltic States, Czech Republic) might be reduced through a somewhat higher labour resource use. The *productivity gap* can be made explicable decisively through capital deepening and the much lower level of TFP than that of the EU-15. (Table 1)

Sources of disparities in GDP per capita compared to EU-15 (2006 Table 1

	GDP per capita	labour use	hourly labour productivity	capital intensity	TFP
Slovenia (Sl)	-20,9%	10,5%	-28,5%	-15,6%	-16,1%
Slovakia(SK)	-43,4%	3,1%	-45,1%	-22,3%	-30,1%
Hungary(HU)	-41,9%	6,5%	-45,4%	-25,0%	-27,9%
Czech Republic (CZ)	-29,4%	29,2%	-45,3%	-20,2%	-31,9%
Poland (Pl)	-52,9%	4,8%	-55,0%	-32,0%	-35,0%
Estonia(EE)	-39,5%	33,9%	-54,8%	-29,4%	-39,0%
Romania(RO)	-66,5%	8,2%	-69,1%	-38,7%	-47,7%

The convergence of the GDP per capita is linked with the *price level convergence* (Balassa-Samuelson effect). This equalization is not necessarily accompanied by a higher inflation rate.

The price level convergence includes per definitionem the real exchange rate appreciation. (The latter shows the domestic price level compared to trade partners, in common currency.) The price level differences are especially high in the

service sector. (According to 2005 data, the average price level in the NMSs did not even reach the 50% of that of the EU-15) (European Commission (2008) 205 p.)

The *price level convergence* is a long term process. Its degree might fluctuate in the short run. The domestic business cycle, the nominal exchange rate fluctuations and global price swings of certain product groups (energy sources, agricultural products) might distract the inflation rate from the convergence trend for a while. At the same time, certain structural factors might also mitigate the inflationary effects during the catch-up process. The trade liberalization and the EU-integration, a product market competition that is more intensive than before may reduce inflation. The integration leads to the structural adaptation in the economy of the new Member States. (According to research carried out by Angeloni et al. (2007), there is a systematic correlation as regards structural disparities and income gap between the new Member States and the Eurozone.)

The *degree of trade integration* is higher in the new Member States than it was in former catch-up countries (that joined the Eurozone later) over a similar period of time. The intra industry trade has gained in importance; its rate is, however, a bit lower than that of the Eurozone. (Backé - Thimann (2004)). In certain new Member States, the raw materials and the low-added value products still play an important role in the export structure. This structure may increase their vulnerability against asymmetric shocks.

The *structural adaptation* of the new Member States has proceeded, but certain differences still exist. In the new Member States, the weight of agriculture is decreasing, the share of industry is generally higher and the share of services is lower than in the Eurozone. At the same time, the disparity in the distribution of employment is larger than that of the value added. This situation triggers the possibility of further changes in the employment structure.

Lately, the new Member States have experienced altogether a higher but more volatile growth than the countries in the Eurozone. Certain analyses (e.g. Backé-Thimann (2004)) having applied combined methodology have revealed that the cycle of the new Member States can be characterized through correlation coefficients similar to those of the peripheral countries of the Eurozone. At country level, things are more complex: the correlation is higher in the Central-European Countries and lower in the Baltic States. (Fidrmuc-Korhonen (2006)) Examining the effects of shocks through the cluster-analysis, Shadler et al. (2005) found out that the group of the new Member States are "at least as well-prepared" to join the monetary union as the present periphery of the Eurozone was in 1998.

The *labour market flexibility* in the new Member States generally exceeds that of the Eurozone countries. (It is caused by the less strict employment protection regulation, the higher wage flexibility and the usually decentralized wage agreements. Boeri-Garibaldi (2006), Angeloni et al. (2007)) The Eurozone countries – in the framework of the monetary union – can adapt easier to the effects of asymmetric shocks. On the other hand, the disparities among the new member States are significant. The employment is low and the structural unemployment is high in certain countries. Occasionally, the sectoral and regional labour mobility is low. (At the same time, the partial opening of the EU labour market increased the trans-border mobility that exerted a traceable effect on the local labour supply. The promotion of the more effective functioning of the labour market is a major challenge for the

new Member States. (Bonello (2007), Rybinski (2007).)

The fiscal positions have improved in the new Member States lately. (The excessive deficit is decreasing fast in the countries concerned. The public debt in the new MSs is on average lower than in the Eurozone. The demographic trends constitute a challenge in several new MSs in the long run. The automatic stabilizers are somewhat weaker than in the EU-15, but this is to be compensated with higher fiscal flexibility. (Schadler et al. (2005)).

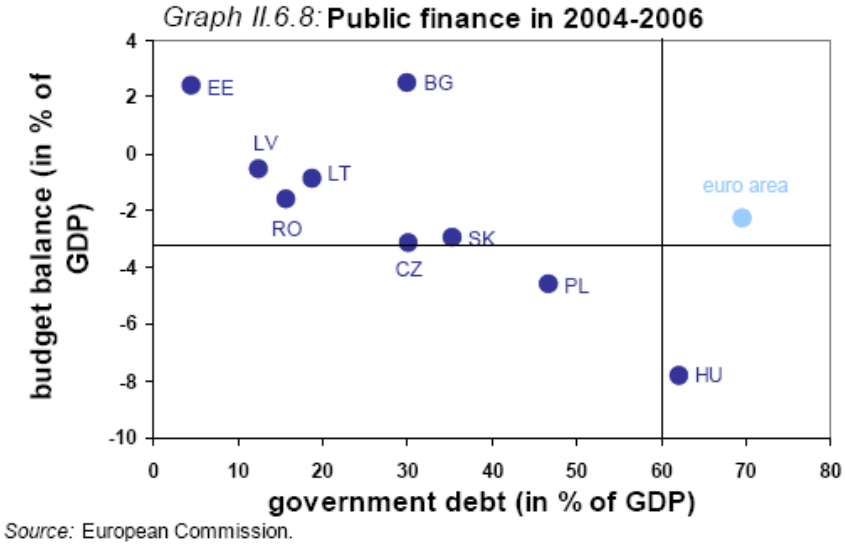

Fig. 2. *Public finances 2004-2006*

As regards the fiscal soundness and the quality of public finances (Figure 2), the differences among certain countries are big. In fast growing economies going through fast structural changes, the uncertainty about the underlying fiscal positions usually arises. That is why there is a need for special prudence when assessing fiscal positions. On the other hand, the risk of effects of shocks induced by the fiscal policy has been mitigated through the enforcement of the EU fiscal policy framework. (Daures, Rose, Szapáry (2005)). The fiscal performance of the new MSs is summarized in Annex 1. It has come to significant financial integration with Eurozone countries. (First of all due to the foreign ownership of financial intermediaries in the new MSs.) Besides better access to sources, the foreign ownership has also contributed to better knowledge transfer and product availability.

Structural differences in the monetary policy transmission might lead to worse than optimal results in the real economy, if business cycles correlate. These differences can be reduced through fast financial integration. (Coricelli et al. (2006), Angeloni et al. (2007)). In the new MSs, as regards the *monetary policy transmission* – due to the lower degree of financial deepening – the interest rate channel is somewhat weaker than in the Eurozone. At the same time, the role of the exchange channel is strong but it is getting weaker. The fast growth of credits, the high rate of investment compared to the GDP, exerts an effect on the strengthening of the interest rate channel. The ongoing

adaptation of the financial sector might mitigate the differences of the monetary transmission against the Eurozone.

The *development of the nominal convergence was very diverse among the new MSs* during the half decade following the enlargement. (Figure 3) Some of them have reached significant development and have joined the Eurozone. Others could meet the convergence criteria to a smaller extent or not at all. In certain cases, this has led to the adjournment of the euro adoption plans. (Characteristically in bigger countries out of those which joined the EU in 2004)

The maintenance of the nominal convergence faces further challenges under the conditions of the present crisis. While the inflation fell significantly in most countries concerned, the impacts which make it more difficult to meet the nominal convergence criteria prevail as regards the fiscal balance, exchange rates and long term interest rates. This happens especially in counties which accumulated a huge external deficit and whose fiscal vulnerability has grown.

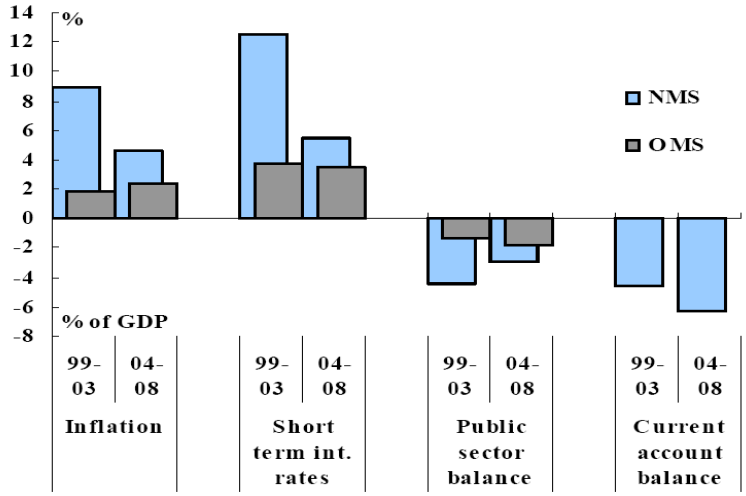

Fig. 3. *Nominal Convergence*
Source: European Commission

2. New challenges of convergence during the crisis

The potential advantages of the euro adoption are of great importance for the new MSs. They can contribute positively to the long term growth and stability. The euro adoption has an impact on the economic performance through several macro- and microeconomic channels: the stability-oriented macroeconomic framework, the access to liquid markets, more trade and foreign direct investment, lower transaction costs and increased competition.

The Eurozone membership has to be assessed in a broader context when considering it from the point of view of the economic policy. The static view on the state of nominal convergence is not enough. (Angeloni, Flad and Mongelli (2007)) In order to benefit from all the advantages of the single currency - in the case of the common monetary policy and irrevocably fixed exchange rate – the economic policy needs to ensure the proper functioning of the *internal adjustment mechanism safeguarding stability*. The adequate labour- and product market

flexibility along with sufficient fiscal buffers were identified as the preconditions of the successful euro adoption. (Rybinski (2007), Darvas and Szapáry (2008)). A closer economic integration in the Eurozone might contribute to mitigating the vulnerability against asymmetric shocks.

Considering the special conditions of the NMSs, special attention needs to be paid to the *risks* related to convergence. Countries accumulating a huge internal and external deficit are very vulnerable under the conditions of the present crisis. Those had significant growth and real convergence during the past years. At the same time, price level convergence and real equilibrium appreciation were reached as part of the process. On the other hand, the catching up process of the NMSs is effected by globalization and financial integration. The NMSs are highly sensitive against shock impacts due to their relatively small size high openness and greater need for external financing. These risks have become apparent during this crisis. The retreat from risk and the search for liquidity by investors might contribute to heavy pressures on the financial markets of the NMSs.

2.1. Price level and real convergence

The majority of the NMSs achieved remarkable convergence (taking into account the advancement of the macroeconomic stability and the supply side reforms related also to the EU-accession). (But there is still a broad difference among certain member states.) The new MSs have to be faced with a shortfall caused by the crisis and sharp decline in growth (and perhaps with GDP decrease.) Certain counties, which had a significant catch-up growth during the past years (e.g. Baltic states) entered a recession. The growth in the region has slowed down permanently. Therefore, the real convergence – within and outside the Eurozone – remains a determinant factor shaping the economic policy strategy for most NMSs in the medium term.

The equilibrium real exchange rate appreciation (price level convergence) is considered a natural consequence of the economic catch-up. (De Grauwe and Schnabl (2005)). The real exchange rate appreciation depending on the monetary policy and the exchange rate levels might occur following two paths (or combining them); through the nominal exchange rate appreciation and/ or a higher internal (domestic) inflation. The pace and the channels of the equilibrium real appreciation are of great importance as regards the trajectory of nominal convergence. The fixed exchange rate system (which was introduced by the Baltic States) excludes the nominal exchange rate channel of the real appreciation. Therefore, higher trend inflation is evolving for converging economies, rather than for the anchor area.

Beyond the Balassa-Samuelson effect, further factors significantly influence the dynamism of the real appreciation. The pace of the income convergence, the domestic demand growth exceeding the GDP growth, and the exchange rate regime are significant determinants of the price level convergence dynamics. (Darvas and Szapáry (2008)). In the short term, certain factors (e.g. the nominal exchange rate movements, the effect of the changes in the global resource and food prices) might temporarily deflect the inflation rates from the trends supporting the price level convergence. (Certain structural factors – e.g. trade liberalization, boosting competition on the product markets etc. – might have similar effects.) At the same time, *not all inflationary differences might be consistent with the need for ensuring the competitiveness and external stability of the economy in the medium term.* In certain NMSs, the unsustainable domestic

demand growth caused the high inflation. This process was fuelled through too optimistic future expectations of the economic agents and/ or insufficient economic policies.

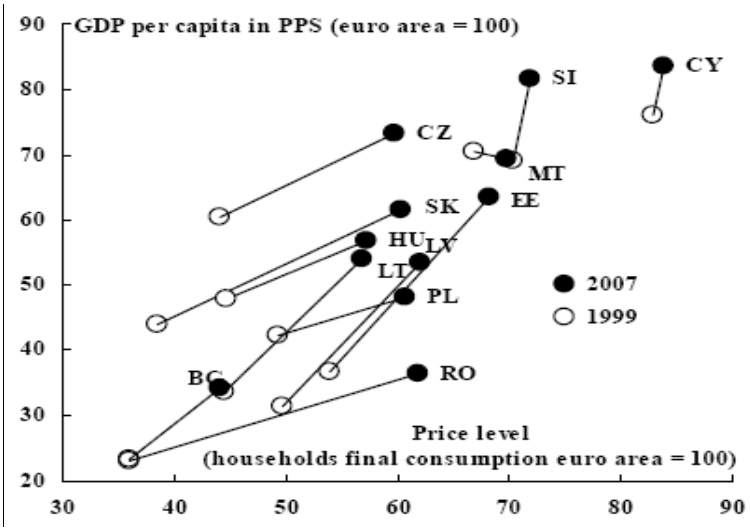

Fig. 4. *Catch-up and price level convergence in the NMSs*
Source: European Commission

2.2. Financial integration and real convergence

The growth dynamism in the NMSs was generally accompanied – sometimes controlled – by *rapid financial deepening and credit expansion*. The financial integration of the NMSs has advanced. The NMSs have been able to mobilize the external savings to a great extent due to their ongoing convergence and the high returns on investment. The short-term and the long term interest rates have been converging to the Eurozone level. (see Figure 5)

This interest rate convergence also mirrored the preceding favourable global environment. On the other hand, it showed that the EU-accession resulted in increasing confidence. The EU-accession and the prospects for the single currency mitigated significantly the risk premia. It provided strategy focus and at the same time, a protective screen for the trustworthy economic policies. (There were no such factors in the other developing market economies.) In the new MSs, the sovereign risk ratings kept improving before and after accession. Following the financial turmoil, the *risk perception increased*, generally speaking.

There was a higher capital inflow (including FDI) – expressed as percentage of the GDP - in MSs with tight pegs and currency boards (hereafter "fixers") than in the floating currency countries. At the same time, the fixed exchange rate regime resulted in a higher current account deficit. In the case of "fixers", the interest rate convergence was stronger. This process often led to a negative real interest rate, especially in the case of strong inflation and rapid credit expansion. The "fixers" started the real convergence process at a lower output level. Therefore, the capital return was potentially higher, which triggered a higher capital inflow during earlier periods of catching up. (European Commission (2008a))

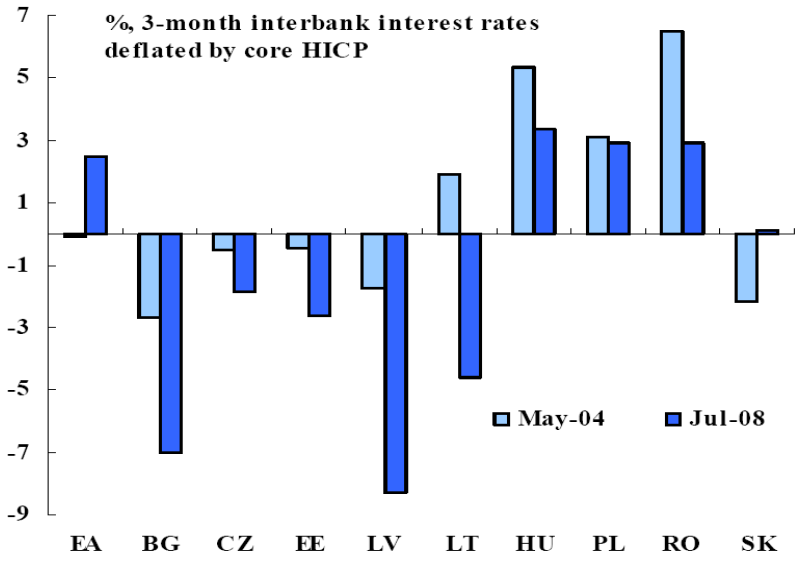

Fig. 5. *Real short-term interest rates in the new Member States*
Source: European Commission

The rapid financial deepening and the high capital inflow are considered a significant challenge to be faced during adaptation. (Darvas and Szapáry (2008), Babecky, Bulif and Smidková (2009)). The rapid credit expansion, the capital inflow in the non tradable sectors (especially housing) might change the composition of the final demand. As a result, it might come to a significant movement of the real exchange rate. *The real appreciation and the external deficit might become excessive* due to the unjustified optimistic expectations of the economic agents and the insufficient economic policies. (Boz (2007)).

An "overshooting" of the real exchange rate may hinder the achievement of fast and sustainable nominal convergence. It might cause further difficulties on the road towards the Euro. In the coming years, painful macroeconomic corrections could be required because of the increasing deficit. The credit growth has slowed down given the global crisis. Liquidity conditions have become tighter. The risk perception of credit providers and credit takers has intensified. The financing conditions have become worse in those countries where high external and internal deficit has developed and the foreign currency lending was significant. (e.g. Baltic States, Bulgaria, Hungary, Romania)

2.3. Convergence and economic policy

Following the EU enlargement in 2004, four new countries fulfilled the criteria required to the Euro adoption. Most of the other counties made some steps as regards the fulfilment of the nominal convergence criteria. Their economic structure got closer to that of the Eurozone, but there are significant differences among the MSs.

The countries prepare themselves to the euro adoption under very different conditions. It is of great importance to outline adequate national strategies. As a fundamental factor of these strategies, the *sustainability of the convergence* should be ensured. The nominal convergence needs

to be achieved and sustained by taking into account the globalization and the financial integration which are peculiarities of the environment.

The main current challenge is the crisis management in countries with high domestic and external deficits. A well-balanced macroeconomic policy-mix and responsible wage policy is required to avoid painful macroeconomic corrections in the coming years. Strong financial supervision is needed and, at the same time, all counties should keep progress towards convergence.

The functioning of the internal adjustment mechanism of economic policies and the focusing on prudent macroeconomic aspects might ensure taking better advantage of the single currency. The flexible domestic production factors and product markets favour the smooth adjustment to economic and financial shocks. The future members of the Eurozone have to push on with adequate fiscal and structural policies according to the Stability and Growth Pact (SGP) and the Lisbon Program, and beyond that.

3. Convergence and catching up

3.1. Main trends in the catching up of the new EU Member States

The pace of catching-up is expressed by *the catch-up rate*, as follows:

$$\textit{Catch-up rate} = 100 \cdot \frac{\Delta(y_{it} - y_t^*)}{(y_{it-1} - y_{t-1}^*)}, \quad (1)$$

where y is the level of GDP per capita at purchasing power standard for country i at time t; y_t^* is the average of y_t for the EU-25; Δ indicates the difference between t and $t-1$, y_t^* is the weighted average of the EU-25.

In the case of negative catch-up rates, the disparity between the country concerned and the EU average decreases, while the positive catch-up rate shows the increase in this difference.

Average catch-up rates[2] - EU-10[1] (in % per annum) Table 2

	1991-1994	1995-1998	1999-2003	2004-2008	1991-2008
EU-10 average [3]	0,43	-1,79	-1,66	-2,92	-1,56
Czech Republic	1,04	0,71	-1,89	-6,60	-1,69
Estonia	0,62	-2,44	-4,31	-4,53	-2,86
Hungary	0,88	-0,86	-4,54	0,60	-1,09
Lithuania	16,00	-2,56	-2,39	-4,47	1,08
Latvia	14,84	-1,21	-2,98	-4,42	0,97
Poland	-1,53	-2,55	-0,48	-2,19	-1,65
Slovakia	-2,33	-2,08	-1,41	-6,58	-3,20
Slovenia	0,36	-3,64	-4,23	-7,10	-3,88
Malta	-6,34	0,57	2,07	1,15	-0,39
Cyprus	-5,18	-3,36	-2,79	-1,20	-3,01

Source: calculated by authors based on Eurostat data
Note: 1- EU-10: Countries which joined the EU in 2004
2. The negative catch-up rate indicates the reduction in the GDP gap compared to the average GDP per capita of the EU-25, and the positive catch-up rate shows the pace of growth of the rate.
3. Weighed against the population of the countries concerned.

The average catch-up rate in the EU-10 countries for the period of 1991-2008 was 1.56%. Above-average catch-up rates for the entire period were seen in Slovenia, Estonia, Slovakia and the Czech Republic. Poland's rate was average, while Latvia, Lithuania and Hungary came in below the average. (Table 2)

The effect of the transformation recession is striking, particularly in 1991-1994, and especially in Latvia and Lithuania. *After 1994, the catch-up* (i.e. a negative catch-up rate) *is observed in the EU-8 countries.* (With the sole exception of the Czech Republic between 1995 and 1998) The annual catch-up rate in the EU-10 was approximately 1.7% in 1999-2003. The best performance in this period was achieved by Hungary with a figure of 4.5%. A rate of above 4% was also attained by Estonia and almost attained by Slovenia, too.

From the year of accession to 2008 and on average for the EU-10 – except for Hungary and Malta – all the countries experienced a *significant growth in the catch-up rate*, with the average rate nearly doubling as compared to the previous five years. Exceptional catch-up rates were displayed by Slovenia, the Baltic countries, the Czech Republic and Slovakia in the years studied.

Compared to the trends of previous years, one fundamental change was represented by the *halt in the Hungarian catch-up process* from 2004. In the case of Hungary, as a result of the macroeconomic (especially equilibrium) difficulties, as well as the coerced stabilization program launched in the autumn of 2006, *there has essentially been no catch-up in GDP per capita since accession*. The trends of recent years have really put the brakes on the catch-up rate for the entire period under review. For Hungary, the average annual catch-up rate totalled 1.09% between 1991 and 2008. At the same time, within this period – between 1995 and 2003 – the catch-up rate approximated 3% per annum.

The σ-convergence can be examined against the methodological problems if the results are treated cautiously. According to the European Commission's examination, the disparities are much larger if the new Member States are taken into account, too. (European Commission (2004)) The average annual fluctuation of the three convergence indicators shows that the disparities of the per capita GDP in the EU are narrowing. The catch-up pace is enhancing as compared to previous periods, especially at regional level, but the initial level of regional disparities is much higher.

The regional disparities decreased essentially due to the decrease in disparities among countries. The disparities within countries increased by 2,4-2,6% depending on the applied indicators. This strengthens the results for the EU-15: there is a certain degree of convergence to be observed at country and regional level in the whole EU25, but the disparities within countries are increasing (or might increase).

The convergence over the past decade is depicted – as a simple regression - in Figure 1. (In Figure 1, the data of the USA, Japan, Norway and Switzerland are also to be seen.)

Figure 1 may support the conditional convergence hypothesis. The lower initial GDP is thus generally accompanied by a higher growth rate. At the same time, the figure clearly emphasizes the disparities between the catch-up performances. Exceptional growth is recorded in the Baltic countries as well as in Ireland, and in the development of certain 'Nordic' Member States carrying out bold structural reforms (Sweden, Finland). Nonetheless,

unfavourable dynamics are observed in Portugal, Malta and Cyprus, as well as in the larger continental Member States.

3.2. Fundamental factors of catching up

The dissimilar characteristics of new Member States preclude a standard formula for catching up. Significant differences appear in the sectoral structures of individual economies. Five of the ten states joining in 2004 are small economies. Thanks to their open nature, efficient growth strategies rely far more on external competitiveness than in the big Member States. This exerts a considerable influence on the role of currency variations or domestic capital costs. No endeavours to imitate the successful policies of other countries (such as Ireland) can prevail without considering the particular circumstances of the given country.

Economic activities are typically carried out on the market. However, the importance of *political frameworks* in the decisions of market players cannot be underestimated. For example, property rights, the security of a return on capital investments, research or education and the accessibility of infrastructure may play key roles in decision-making. These factors strongly determine the growth process. At the same time, the market-driven allocation of resources does not lead per se to an optimal supply of goods. (The market does not reward products whose consumption does not involve exclusion and competition, or which create a certain externality.) All this applies to investments in knowledge as well.

3.3. Increasing divergence, adoption constraint

The diversity of the Eurozone will increase following the enlargement with the NMSs. (More volatile inflation, asymmetric shocks etc.) The economic policy should focus on *reducing related risks*. On the other hand, the divergence from the otherwise favourable convergence path should be avoided. (Paying great attention to the adjustment mechanism, the reforms promoting the potential growth, the promotion of real convergence.)

In the case of suboptimal reactions on changes, a potentially bad divergence might come into being following the euro-adoption. The monetary integration facilitates the smooth shock adjustment in the monetary union through enhanced risk sharing possibility. (European Commission (2008) 178-194 pp.) In the case of a rapid monetary integration, credit booms might result in temporary (non-equilibrium) upwards pressure on the real exchange rate which eventually should be turned back. *If adequate adoption* (e.g. due to nominal inflexibility) *is not possible, then the economic growth is supposed to stay at a low level in the long run.* Consequently *the process of the real convergence might get stuck or it can even change direction* (see e.g. the case of Portugal recently).

Fiscal policies of catch-up countries – especially of those reaching a rapid real convergence – face remarkable challenges (high capital inflow, soaring asset prices etc.) Sustaining monetary stability is an essential condition as regards the undisturbed functioning of the system. Structural policies are of great importance: more flexible functioning of markets (among them labour markets), knowledge based economy, development of infrastructure etc.

3.4. Quality of the catch-up and real convergence

The faster growth in the NMSs after the EU-accession was based mainly on the *faster domestic demand growth*. (Table 3)

GDP growth and its main demand factors Table 3

annual average change as percentage (fixed prices)	new Member States		old Member States	
	1999-2003	2004-2008	1999-2003	2004-2008
GDP	3,4	5,6	2,2	2,2
private consumption	4,0	5,5	2,5	1,7
public consumption	3,1	2,3	2,2	1,8
gross fixed capital formation	2,0	10,2	2,3	3,4
export	8,7	11,8	4,8	5,7
import	7,9	12,4	5,0	5,6
contribution to the GDP growth				
- domestic demand	3,4	6,4	2,2	2,1
- net export	0,0	-0,8	0,0	0,1

Source: European Commission

After the enlargement, the dominant factors of the domestic demand growth were the *private consumption* and the *gross fixed capital formation*. The government consumption growth was, however, somewhat more moderate. At the same time, the import usually grew to a greater extent than the export in the NMSs.

The gross fixed capital formation increased also in the EU-15. As the dynamics of the private and public consumption growth mitigated in these counties, the dominant demand-side factors of the economic growth were the increasing investments and exports.

Among the NMSs, the Baltic States had the highest economic growth in the half decade preceding the enlargement. In the years after the enlargement (5 years), also Slovakia became one of the countries with the most dynamic growth performance. The contribution of the domestic demand to the growth exceeded the annual average of 6% in three countries (Bulgaria, Estonia, Latvia). In four other countries (Poland, Lithuania, Romania, Slovakia), the contribution of the domestic demand growth reached the indicated share after the accession. Before the accession, the net export contributed to the growth only in Cypress, Poland and Slovenia; after the accession the Czech Republic and Hungary could be added to the abovementioned group.

In the Baltic States and the new Balkan MSs, the growth based on domestic demand was dominant. At the same time, after the accession, in certain Central European Countries (Czech Republic, Hungary, Slovakia) the demand structure of growth was more rebalanced.

The output gap in the EU in the period examined reached 0,5% of the GDP. In the old MSs, the positive output gap narrowed while the negative output gap in the new MSs switched to a great positive difference.

The catch-up process was partly based on exuberant demand. The process was financed through cheap credit. At the same time, a notable current account deficit arose in the countries concerned. The growth as a basis of catching up outpaced the supply potential of the economy.

This dynamics was not considered sustainable. In 2008, a strong growth correction was launched. The *real convergence prospects* have *deteriorated drastically* due to the global crisis and the

accumulated macroeconomic equilibrium problems.

There has been deep recession in the NMSs mostly suffering from the crisis. The national economic performances have declined significantly. In order to stimulate the real convergence and the catch-up process, macroeconomic equilibrium, investments increasing the productivity and growth based on highly educated workforce are required. The precondition for the sustainable dynamism and the *sustainable convergence* is the simultaneous fulfilment of these criteria.

4. Longer term prospects of the real convergence

Due to the severe structural productivity problems of the EU-15 and the insufficient adjustment to the globalization, a permanent and significant decline in the potential growth rate is to be expected. (See European Commission (2006), Carone et al (2006), Halmai (2007), Halmai-Vásáry (2008) etc.) The unfavourable investment environment promotes a higher level of capital outflow and a notable increase in the share of imported products and services.

Applying the *production function* approach, the longer-term simulations indicate that the potential growth rate both in the EU-15 and the EU-27 falls. [1] (European Commission (2006), (2008b), (2009b)) This reduction will be continuous, moving from an annual 2.4% in 2004-2020 to an average of 1.7% in 2021-2030 and then down to 1.3% in 2031-2060. The forecast decline in the potential rate of growth is far greater in the EU-10 and EU-12 countries than in the EU-15 states. The output in the EU-12 between 2007 and 2030 will expand far more rapidly than in the EU-15 countries, i.e. the convergence process will continue. But as time passes, the pace of convergence will slow down, and then stop after 2030. (Based on the simulations, the annual GDP in the EU-10 will grow by only 0.6% in 2041-2060, as compared to a figure of 1.5% for the EU-15 countries. [2] That is there is a switch from convergence to divergence, see table 4)

In the EU-12 countries, demographic developments are likely to be a particularly important factor in the decline of the potential growth rate. According to forecasts, the labour input might grow until 2010. Afterwards, the working age population is expected to decline significantly, in the long run by about one third. In the EU-12, the working age population will decrease by 37% according to the forecast. It will be an important factor for the decrease in the potential growth rate.

Potential GDP growth rate (annual average as percentage) Table 4

	2007-2020	2021-2030	2031-2040	2041-2050	2051-2060	2007-2060
CZ	4,0	1,7	1,1	0,8	0,9	1,8
HU	2,9	2,1	1,5	0,9	0,9	1,7
Pl	4,3	2,3	1,0	0,3	0,4	1,7
Sl	3,7	1,4	0,8	0,7	1,0	1,6
SK	5,3	2,3	0,9	0,3	0,4	2,0
RO	4,9	2,1	1,6	0,6	0,4	2,0
EU- 27	2,4	1,7	1,4	1,3	1,3	1,7
EU- 15	2,2	1,7	1,5	1,5	1,5	1,7
EU- 10	4,2	2,1	1,1	0,6	0,6	1,8

Source: European Commission, 2008b

The increases in productivity per worker are converging between the EU-15 and EU-10 countries. In the long run, we are likely to see an average productivity growth rate of 1.7%, which - in the case of the EU-12 - constitutes a substantial slowdown of more than 50% over approximately three decades. (Table 5, Figure)

Labour productivity (annual average growth rate as percentage) 2 Table 5

	2007-2020	2021-2030	2031-2040	2041-2050	2051-2060	2007-2060
CZ	3,6	2,2	1,7	1,7	1,7	2,2
HU	2,8	2,6	2,3	1,9	1,7	2,3
Pl	3,4	2,8	1,9	1,7	1,7	2,4
Sl	3,4	2,3	1,7	1,7	1,7	2,2
SK	4,5	2,9	1,9	1,7	1,7	2,6
RO	4,6	3,0	2,7	2,0	1,7	2,9
EU27	1,9	2,0	1,8	1,7	1,7	1,8
EU15	1,6	1,8	1,7	1,7	1,7	1,7
EU10	3,4	2,7	1,9	1,7	1,7	2,4

Source: European Commission, 2008b
Note: labour productivity per hour

The majority of the productivity growth per worker is attributable to the total factor productivity (TFP). In the long run, the increase in TFP will be followed by capital deepening. According to an analysis of the long-term development, the total factor productivity growth may converge between the EU-15 and EU-12 countries at an annual rate of 1.1%. This enables a 1.7% increase in labour productivity per year, which in the long run will also converge between Member States. (European Commission (2008b): 101, Table 6)

Total factor productivity Table 6

	2007-2020	2021-2030	2031-2040	2041-2050	2051-2060	2007-2060
CZ	2,4	1,3	1,1	1,1	1,1	1,4
HU	1,4	1,6	1,5	1,2	1,1	1,4
Pl	1,6	1,7	1,2	1,1	1,1	1,4
Sl	1,6	1,3	1,1	1,1	1,1	1,6
SK	2,8	1,8	1,2	1,1	1,1	1,6
RO	2,1	1,8	1,8	1,3	1,1	1,6
EU27	1,1	1,2	1,1	1,1	1,1	1,1
EU15	1,0	1,2	1,1	1,1	1,1	1,1
EU10	1,9	1,6	1,3	1,1	1,1	1,4

Source: European Commission, 2008b

In the EU-15, the contribution of capital deepening to the productivity growth will be averagely 0,6% of the GDP in the long run. (Table 7)

Capital deepening as a determinant of labour productivity (period averages) Table 7

	2007-2020	2021-2030	2031-2040	2041-2050	2051-2060	2007-2060
CZ	1,2	0,9	0,6	0,6	0,6	0,8
HU	1,4	1,0	0,8	0,7	0,6	0,9
Pl	1,7	1,1	0,7	0,6	0,6	1,0
Sl	1,9	1,0	0,6	0,6	0,6	1,0
SK	1,7	1,2	0,7	0,6	0,6	1,0
RO	2,5	1,2	1,0	0,7	0,6	1,2
EU27	0,8	0,7	0,6	0,6	0,6	0,7
EU15	0,6	0,7	0,6	0,6	0,6	0,6
EU10	1,6	1,1	0,7	0,6	0,6	0,7

Source: European Commission, 2008b

In the case of the EU-12 countries, this contribution between 2004 and 2020 will be roughly 1.6% each year. This high rate is one of the indicators of convergence. Later on, such contribution will gradually fall to 0.6%, the level of long-term growth in the EU-15. Based on these developments, the productivity per worker in the countries of the EU-10 will rise to 83% of the level recorded in the EU-15 states by 2050.

Changes in the total factor productivity are of crucial importance both in terms of long-term economic growth and convergence. In comparison to the annual average over several decades indicated above (1.1%), the growth of the total factor productivity in most countries of the EU-15 has fallen since 1990 and grown by only 0.8% each year. *If we base our forecast on this slower growth, then the long-term growth prospects are substantially worse than those presented in the baseline scenario.*

The decrease in the per capita GDP growth rate is more moderate than the decline in the dynamics of the total output in the period studied, as the EU population is diminishing in the long term. (Table 8)

GDP per capita growth rate (period averages) Table 8

	2007-2020	2021-2030	2031-2040	2041-2050	2051-2060	2007-2060
CZ	3,8	1,8	1,4	1,1	1,3	1,9
HU	3,0	2,3	1,8	1,3	1,3	2,0
Pl	4,4	2,6	1,5	0,9	1,0	2,1
Sl	3,4	1,6	1,1	1,2	1,5	1,8
SK	5,2	2,5	1,3	0,8	1,0	2,3
RO	5,3	2,5	2,1	1,1	1,2	2,5
EU27	2,0	1,7	1,5	1,5	1,6	1,7
EU15	1,7	1,5	1,4	1,5	1,6	1,6
EU10	4,2	2,4	1,5	1,0	1,2	2,1

Source: European Commission, 2008b

GDP per capita in the EU-10 and EU-12 countries compared to the EU-15 shall catch up significantly in the coming two decades. Later, the convergence may come

to a halt, and by the end of the period under review, the GDP per capita in the EU-10 and EU-12 countries may fall somewhat compared to the EU-15. The estimated dynamics of per capita GDP are based on the productivity growth of the country-group concerned.

Besides these tendencies, the *growth rate might differ from one country to another*. This can be explained – especially in the first half of the period examined – through the different productivity dynamics of the countries. (A major factor of that is considered the catch-up potential of the countries.) In the second half of this period, the development of demographic factors and labour input will be of great importance.

Besides the declining potential GDP growth rate the *sources of growth* are changing dynamically as well. The labour factor will contribute to the potential growth in a positive way until 2020. The productivity growth has been a dominant factor of the potential growth from the outset; later on it becomes the exclusive one.

By means of the growth accounting methodology, the impacts of the sources of growth can be examined. In the EU-27, the impacts of the low population growth rate and the increasing employment rate will be surmounted by the decreasing working age population. Therefore, the labour input contributes negatively to the potential growth in the decades examined. (Table 9)

Summarizing: according to the simulations, the annual potential growth rate of 2,4% in the EU-27 in 2007-2020 is expected to decrease to 1,3% after 2040. In the new MSs, the potential growth rate will decline at a greater pace; thus the real convergence will stop from *2030 onwards and even a moderate divergence from the EU-15 might occur*. This can be explained by the following factors: on the one hand, the productivity growth rate might be rebalanced by 2050, on the other hand, the demographic forecasts are significantly more unfavourable in the NMSs than in the old ones. Nota bene: the labour productivity and the employment depend on several factors and the simulation took as a basis the one that is considered the most likely.

Decomposition of GDP growth, 2007-2060 (Due to growth in…) Table 9

	Potential growth rate 2007-2060	Productivity (GDP per hour worked)	TFP	Capital deepening	Labour input	Total population	Employment rate	Share of working age population	Change in average hours worked	GDP per capita growth in 2007-2060
CZ	1,8	2,2	1,4	0,8	-0,4	-0,1	0,0	-03	-0,02	1,9
HU	1,7	2,3	1,4	0,9	-0,5	-0,3	0,0	-0,3	-0,01	2,0
Pl	1,7	2,4	1,4	1,0	-0,7	-0,4	0,1	-0,4	-0,01	2,1
Sl	1,6	2,2	1,3	1,0	-0,6	-0,2	0,0	-0,4	-0,01	1,8
SK	2,0	2,6	1,6	1,0	-0,6	-0,3	0,0	-0,4	0,01	2,3
RO	2,0	2,9	1,6	1,2	-0,8	-0,5	-0,1	-0,3	0,04	2,5
EU27	1,7	1,8	1,1	0,7	-0,1	0,1	0,1	-0,3	-0,03	1,6
EU15	1,7	1,7	1,1	0,6	0,0	0,2	0,1	-0,2	-0,02	1,8
EU10	1,8	2,4	1,4	1,0	-0,6	-0,3	0,1	-0,3	-0,01	2,1

Source: European Commission, 2008

5. Crisis, potential growth, prospects

The financial and economic crisis started in 2008 caused an extraordinarily rapid decline in the economic performances. The slow-down has gradually become a global recession. This hit especially the USA and the EU. *New risks* have emerged, which will burden the economic activities in the future, too. The recovery of the economy is expected to be drawn out.

It is a real risk that *weak potential growth performance and slow recovery can be expected in that prolonged period*. The following main reasons explain that:

- *Fundamental lack of confidence* which leads to the postponement of household consumption and effective entrepreneurial investments.
- Real economy effects of balance sheet adjustment in the financial sector; downsizing of banks' assets including writing off "impaired" or "toxic" assets, *increases the cost of capital* also despite large recapitalisation packages;
- *Pervasive credit constraints* and *higher borrowing costs* in the non-financial sector together with the restructuring of banks; (In the EU, deleveraging needs for households are generally lower than in the US, but firms are more heavily indebted there. At the same time, the persistent credit squeeze was one of the key factors of the relative Japanese slump recorded in the last two decades);
- A persistent impact on the EU's growth potential might occur if *an attitude to risk and a higher cost of capital dominates*;
- *Slower growth in TFP* in the short and medium terms, induced by the reduction in ICT and knowledge-based investment such as R&D. The postponement of key innovation-prone investments may have a lasting effect on productivity and growth;
- *Permanent destruction in human capital* due to an increase in the structural unemployment rate (NAIRU) induced by a protracted recession. (This permanent negative effect in terms of "knowhow" or professional knowledge is often called "hysteresis" effect (See Blanchard and Summers, 1989)
- The collapse of the world trade and the drastic fall in import demand pose risks for a *higher degree of protectionism*. (European Commission, 2009b)

Taking all these risks and threatens into account, *more negative growth prospects* can be observed as it was outlined by the method (production function based on supply-side approach) used so far.

The financial crisis causes a lower contribution of the labour and capital formation to the growth and results in unfavourable TPF. *The longer-term* labour market trends (e.g. the unfavourable dynamics of the working age population) affect negatively the potential growth rate. The recession intensifies these negative impacts.

The 2009, Spring Forecast of the European Commission indicates the increase in structural unemployment. (European Commission, 2009a). *According to the simulations, 1% increase in the Non-Accelerating Inflation Rate of Unemployment (NAIRU) triggers a decrease of 0,6% in the potential growth rate.*

Due to the financial disturbances, the investment trends deteriorate severely. *A decline of 2-3% expressed as a percentage of the GDP decreases the potential growth rate by further 0,2-0,3% in the countries concerned.*

As a result of the unfavourable effects, the contribution of the TFP to the growth declines by about 0,1% a year. The TPF-assumptions are conservative: these assumptions do not take into account the

one-off downward change to be expected in the TPF level and the development of the potential output related to the structural change in a sector. The performance of certain sectors e.g. financial services, car production etc. is likely to decline due to the crisis.

Empirically, it is to be proved that a *financial crisis might coexist with drawn-out or steady-state output decline*. According to empirical research, a significant decrease in the potential growth rate was to be observed together with extended bank and financial crisis. (Cerra, Saxena et al. (2008), Haugh et al. (2009)) According to experiences gained in certain counties (Japan, Finland, Sweden) at the beginning of the 1990s, the financial shock causes a significant decline in the potential growth rate. This process is led by a *permanent increase in unemployment and fall in investment rate.*

Factors of the downward pressure on the investments:

- increase in risk premia calculated for entrepreneurial and household credits;
- correction towards the 'normal' rate of the investment level, which evolves following the excessive investment rate of the boom period (generated by the financial and housing bubble).

Simulations carried out using the Quest model (see Ratto – Roeger – in't Veld (2008)) confirm the negative effects of the adjustment disturbances on the labour and product markets, the *nominal stiffness and the higher structural unemployment* on the potential growth. The simulations show the function failure of the labour market, they show that there is no nominal wage adjustment after the crisis. This nominal stiffness might result in the decrease in employment and the increase in structural unemployment.

In order to calculate the impacts of the current crisis, alternative scenarios need to be set up. In view of the large uncertainty regarding the length of the slump in economic activity, the case of the temporary shock and the case of the permanent shock needs to be defined.

Two temporary shock scenarios can be described: a *'lost decade'* and a *'rebound' scenario.* These scenarios consider potential growth i.e. they are based on the supply-side factors, which are affected by business cycles, but also take into account the actual growth (And which cannot be simulated by means of the production function approach.) [3] Those figures are much lower than the baseline projection for the period until 2013. Therefore the annual potential GDP growth in the EU-27 included in the latest analysis carried out by the European Commission is lower by around -0,9 % in both scenarios than in the baseline scenario.

The potential growth components will then converge to reach the growth rate projected in the baseline:

- in the *'lost decade'* scenario, labour productivity is assumed to reach the baseline growth rate in 2020. Labour input is assumed to reach the baseline growth rate in 2020, too.
- in the *'rebound'* scenario, labour productivity and labour input are expected to reach the baseline level in 2020.

Given the current economic crisis and a very considerable degree of uncertainty, the impact of a permanently worse situation of the growth potential can also be analyzed. This is the *'permanent shock'* scenario. [4]

According to the permanent shock scenario from 2014 to 2020, the labour productivity growth and labour input growth will reach the baseline figures, but the unemployment rate will be permanently 1% higher than in the baseline from 2020 onwards; and the labour productivity growth rate will be 0,25 % lower than that from 2020 onwards.

The *'lost decade scenario'* causes a reduction in the per-capita GDP level by the end of the period examined compared with the baseline. It implies *a lower expected potential growth* up to 2020. This period is 'lost' in terms of accumulated wealth creation. The loss in GDP per capita in the EU-27 is around 8% in 2020. This scenario carries over the loss in the rest of the projection period. The growth projection remains broadly unchanged between 2020 and 2060. In the *'rebound' scenario*, the GDP per capita by 2060 is the same as in the baseline (The deterioration relative to the baseline up to 2014 is offset by the improvement between 2015 and 2020). (European Commission, 2009b)

A more marked reduction in the GDP per capita level occurs in the 'permanent shock' scenario. In that case, the GDP per capita is 10% lower than in the baseline in 2020, 14% lower in 2040 and 18% lower in 2060. It means that this scenario reflects a significantly lower growth throughout the projection period than it was assumed before. (The growth path of the different variables is summarized by figure 6)

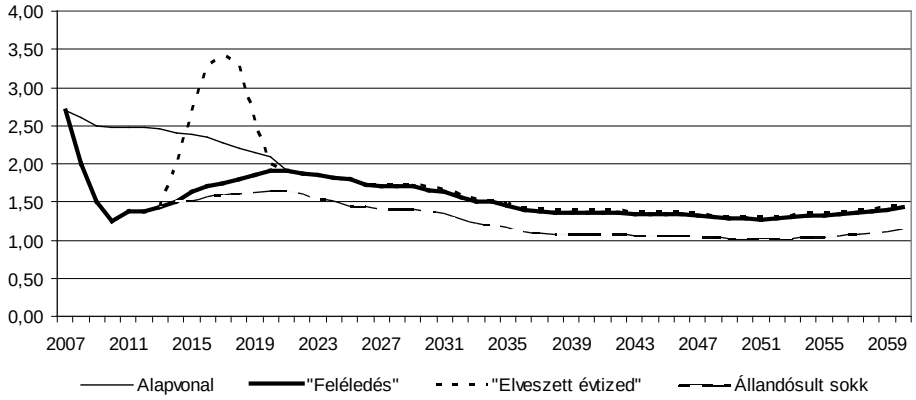

Fig. 6. *Potential GDP growth under different shocks (annual growth rate)*
Source: European Commission, 2009b

The permanent shocks would result in the complete collapse of the growth and catch-up models in Europe. In the long term, one fifth of the GDP would fall out and the chances of real convergence would deteriorate dramatically, though differently from one country to another.

6. Some conclusions

1. The fulfilment of the nominal convergence criteria per se is not enough to ensure a robust long term economic performance in the monetary union. Therefore, the promotion of fiscal and structural policies is required also in the course of the euro-adoption. (Together with the compliance with rules of the Stability and Growth Pact (SGP)). The basic condition for the *real economic convergence* is considered the approach among the structure of the economies that might be promoted also by transfers of the cohesion policy. This way, the risk of asymmetric shocks among certain economies might be mitigated, the synchronization of business cycles might be strengthened, and the Eurozone might get closer to the fulfilment of the criteria of the optimum currency area.

2. Catch-up and convergence is based on economic growth. At the same time - also in relation with the challenges of the

globalisation and competitiveness problems of the European Union's economy - the current average annual rate of *potential growth in the European Union of 2.4% could fall to half this level on average in the coming decades.* The potential growth rate will be cut to half, despite the prognosis containing a relatively benign development in labour productivity. This may also indicate adverse demographic changes.

Since their accession, the new Member States have been following transition paths leading to substantial convergence. Yet, *the pace of this catch up will dwindle over time and may eventually stop.* The growth in these countries might be more moderate in three decades than the average of the EU-15 at that time. It is possible that the convergence of the new Member States will reach around three-quarters of the per capita GDP level of the EU-15, i.e. after the rapid initial convergence *the EU-10 countries will increasingly constitute a stagnating "convergence club".*

3. The present global crisis resulted in the deepest recession we have seen since WWII. New risks appeared. The risk of shock repetition is high. These changes project *further erosion of the growth potential in Europe*. *The trajectory of the steady-state shocks threatens with the complete collapse of the European growth and catch-up model.*

4. The abovementioned projections assume that there are no changes in the policies of the EU member states. Comprehensive, integrated structural reforms *(Lisbon-type reforms)* could provide an opportunity to overcome these adverse developments and achieve *higher growth than above and enlarge the Economic and Monetary Union.* Consistently implementing these reforms will facilitate a renewal of the European model and thus a better outcome to convergence processes. The fulfilment of the set goals depends to a not insignificant extent on convergence within Europe. The more developed EU Member States took the Lisbon process as their own from the very beginning. But the new EU members are very important factors in this framework. *The successful convergence of the new Member States which implies far-reaching reforms is a major prerequisite to the successful development of the European integration.*

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Notes

[1] In this section, we used the quality analysis - based on the production functions - that was carried out for the European Commission. (See European Commission (2006), (2008b), (2009b), Carone et al (2006); Denis et al (2006). The source of the tables in this section: European Commission (2008b).

[2] The average growth rate in the EU-12 is expected to be 2,6% in 2020, 1,8% in 2030, 1,2% in 2035, 0,8% in 2040, 0,6% in 2045 and 0,4% in 2050!

[3] In the short term, the projections are based upon the Forecast carried out by the European Commission in January 2009 up to 2010, in the medium term the projections are extended until 2013 with the EPC Output Gap Working Group method that extrapolates the trends for the components of potential GDP

[4] It requires sensitivity scenarios embedded in the long-term projection exercise.

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Annex 1 Fiscal performance in the new member states

In most new MSs – the same as in the old ones – there was an *improving nominal budget and structural balance and lower debt-ratio until 2007.* Corrections of excessive deficit have occurred and member states were heading towards medium term budget objectives. (European Commission, 2009)

The budget and structural balance was improved mainly through revenues in Slovakia and Poland but mainly through expenditure in Bulgaria, Check Republic and Slovenia. Consolidation though decreasing spending shows the permanent correction of government deficit. (Alesina and Perotti, 1997)

In most NMSs the *state debt ratio* compared to the GDP has remained at a low level. There is an exception: Hungary with a state debt ratio of over 60%.

In the NMS the majority of fiscal variables improved in the period 2004-2007. The strict EU-rules contributed to that to a great extent. In July 2004 the Council – following the Commission's proposal – initiated *excessive deficit procedure* against six new member states (Hungary, Poland, Check Republic, Slovakia, Cyprus and Malta). These countries could decrease the deficit successfully so in most cases the procedure was cancelled. *But taking into account the present financial crisis it is likely that most of the NMSs will have to face the excessive deficit procedure again.*

During the fiscal performance assessment it is important not only to avoid the excessive deficit procedure but also to make progress as regards the achievement of *medium-term budget objectives*. Through reaching sound fiscal position the excessive deficit might be avoided. At the same time it is of great importance to take into account the implicit liabilities subsequent upon the ageing society.

The medium-term budget objectives are less ambitious in the NMSs than in the old ones: mainly due to the lower debt ratio and higher potential growth. At the same time only certain new MSs could (were allowed to) join the Eurozone or the ERM II system. So their strict rules apply only to certain new MSs.

Following the transformational crisis (roughly from the middle of 1990s) the CEECs got back on the path to economic growth. Simultaneously significant deflections (e.g. periodical acceleration of inflation) occurred together with the growth process. But the extremely strong cycles of credits, asset prices, current account and real exchange rates endanger the stability. The monetary policy and the banking supervision play a decisive role in regulating these processes.

A rational prudent fiscal policy might contribute significantly to the balance and it can restrain the exaggerated credit expansion. It might react positively to the impacts of the private investments on the external balance (current account). At the same time the additional fiscal headroom might help to manage the present crisis, the almost lost confidence. *If the MSs maintain lower deficit and higher surplus that are included in the Stability and Growth Pact during extended booms then these countries are heading towards sustainable public finances and facilitate the automatic stabilizers to operate*.

The *transparent* and authentic *medium-term budget systems* are of great importance. The overestimation of the potential growth and the excessive distribution based on exaggerated optimistic growth assumptions in the budget have to be avoided. The increase in tax revenue is often temporary e.g. while asset prices grow. (Jaeger and

Schuknecht, 2004*) The prudent fiscal policy might result in higher growth even in the short run, mostly through credibility effects* (Rzonca and Cizkowitz, 2005).

The interrelationship between the exchange rate regulation and the fiscal policy is of great importance. As regards the flexible exchange rate system the increase in foreign currency credit needs to be mitigated. (This way the current account deficit might decrease.) In the fixed exchange rate system the spread of instability is even more significant. Therefore the need for prudent fiscal policy is even stronger.

The *fluctuations* in the economies and public finances of the NMSs have been decreasing since EU-accession. It has come especially to the mitigation of fluctuation in the rate of interest, among other factors due to the stabilizing effect of the EU-membership. Under less stable economic conditions the economic and fiscal forecast is particularly complex. (Keereman, 2005) The high variability of the general government revenue and the primary expenditure as percentage of the GDP, the stronger fluctuation in inflation and state debt in the NMS is significant compared to the old MSs.

The Baltic-states, Bulgaria and Romania show an especially high fluctuation in the primary expenditure. Hungary and Romania are very sensitive to the interest changes.

The budget balance deterioration in the NMS – due to the effects of the present fiscal crisis can be considered as a general symptom. All these strengthen the significance of prudent public finances in the medium-term. At the same time the potential budget balance deterioration is related with discretionary measures applied to the crisis management, with the participation in the European Economic Recovery Plan. (The latter burdens also the 2010 budget.) This participation is, however, more moderated in the NMSs. On the one hand in certain NMSs the economic growth hasn't stopped (though it has decreased to a great extent), on the other hand there is a lack of fiscal latitude in other countries. (Therefore Hungary, Latvia and Romania tries to manage the crisis by means of the EU and international financial institutions.) The Check Republic, Poland, Malta and Slovenia have launched a fiscal incentive package. At the same time *there are no such packages or only packages of negligible size* in Bulgaria, Lithuania, Hungary, Romania and Slovakia.